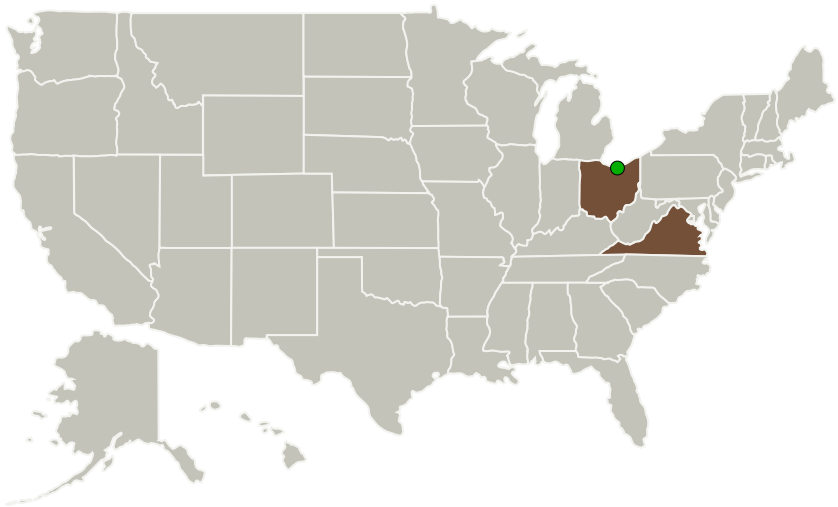
UAS Demand Generator for Discrete Airspace Density, Phase II

Completed Technology Project (2015 - 2018)

Project Introduction

A key component to solving many engineering challenges of UAS integration into the National Airspace System is the ability to state the numbers of forecasted UAS by airframe and mission/operation type being performed within discrete airspaces. The UAS Demand Generator for Discrete Airspace Density (UAXPAN) is a cloud-based application producing UA demand forecasts from user defined scenarios consisting of: UAS, industry, missions, and forecast elements. In Phase I, UAXPAN was developed as a prototype to demonstrate Government and commercial UAS operations. In Phase II, the overall project objective is to enhance the UAXPAN system to allow users and governance groups to start actively adding UAS missions, forecasting UAS growth, and assessing the impact of UAS operations in different areas. The collected data can then be shared with other users seeking to perform assessments of impact or demand and to optimize the crowd sourced input in a cloud-based hosting approach to receive feedback. This will be accomplish by developing UAXPAN as a full system and testing this system as a Beta Operation, designing and developing a user friendly wizard forecast system, and conducting research and analysis on communications and spectrum planning, ATC loading, and environmental impacts of noise and atmospheric emissions.

Primary U.S. Work Locations and Key Partners



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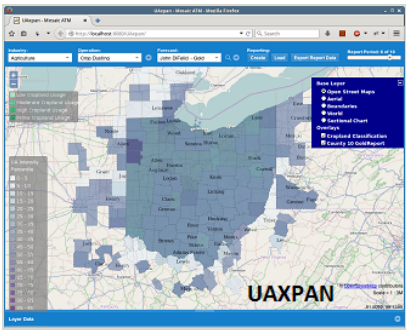
Organizations Performing Work	Role	Type	Location
Mosaic ATM, Inc.	Lead Organization	Industry	Leesburg, Virginia
Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations	
Ohio	Virginia

Images



Briefing Chart
UAS Demand Generator for Discrete Airspace Density Briefing Chart
(https://techport.nasa.gov/image/130355)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Mosaic ATM, Inc.

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

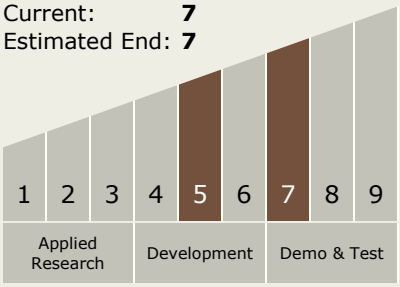
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Chris Wargo

Technology Maturity (TRL)

Start: **5**
Current: **7**
Estimated End: **7**



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Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.1 Avionics Component Technologies
    - TX02.1.6 Radiation Hardened ASIC Technologies

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System